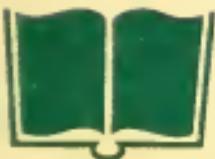


SPECIFICATION  
AND  
SCHEDULE OF IRON WORK,  
NEW CITY HALL.

1900





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# SPECIFICATION

AND

*GENERAL CONDITIONS,*

WITH

## Schedule of Iron Work

AND

*FORMS OF TENDER.*

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## THE CITY HALL,

Hall of Records and Law Courts.

SAN FRANCISCO, CAL.

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# SPECIFICATION

Of works to be done and materials to be provided in erecting and completely finishing up to the top of the podium and base of columns and pilasters, as shown, of certain Buildings, on a plot of ground known as the City Hall Reservation, Yerba Buena Park, in the City of San Francisco, California, embracing the City Hall and Law Courts proper, together with the Hall of Records; for P. H. Canavan, Jos. G. Eastland, and Chas. E. McLane, the Board of City Hall Commissioners for the erection of said Buildings; to this height and agreeably with this Specification, and as delineated on certain Drawings (numbered from one to thirty-seven, both inclusive) prepared under the instructions and authority of the said Commissioners, by Augustus Laver, the Architect, and to be hereto annexed.

## Colors on Drawings.

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The Colors generally on Drawings and details indicate the respective materials of construction, as follows: Cut Stone or Artificial Stone Ashlar, in Umber Brown; Brickwork in Red; Cast Iron in Indigo; Wrought Iron in Prussian Blue.

## Schedule of Drawings.

No. of Drawing.	DESCRIPTION.	SCALE OF FEET.
Main Building.		
1	Basement Plan.	16 feet to an inch.
2	Ground Plan (or first story plan).	do
3	Elevations.	do
4	Basement Plan—part of.	8 feet to an inch.
5	do      do      do	do
6	First Story Plan—part of.	do
7	do      do      do	do
8	Basement Plan, showing Iron Joists 16 feet to an inch.	
9	First Story Plan, showing Iron Girders and Joists.	do
10	Second Story Plan, showing Iron Girders and Joists.	do
11	Third Story Plan, showing Iron Girders and Joists.	do

1\*

# SCHEDULE OF DRAWINGS.

*Continued.*

No. of Drawing.	DESCRIPTION.	SCALE OF FEET.
12	Sections of Rolled Iron Joists.	Full Size.
13	Details of Iron Girders for First Story.	1 foot to an inch.
14	Details of Iron Columns for Basement Story.	1½ inch to one foot.
15	Plan of Portico to Main Tower Vestibule.	4 feet to an inch.
16	Sections of Walls, showing details of Stonework.	1½ inch to one foot.
17	Details of Stonework—part of portico on Larkin Street.	2 feet to an inch.
18	Details of Stonework—part of portico on Larkin Street.	do
19	Details of Stonework—part of portico on McAllister Street.	do
20	Details of Stonework—Part of Pavilion at corner of Larkin St. and Park Avenue ; and portion of Curtain Wall.	do
21	do      do      do	do
22	do      do      do	do
23	Details of Stonework—part of front facing Record Hall.	do
24	Details of Stonework—Portico to Main Tower.	do
25	Details of Stonework — Basement Doors in Curtain Walls.	do
26	Details of Stonework—First Story Doors in Curtain Walls.	do

# SCHEDULE OF DRAWINGS.

*Continued.*

No. of Drawing.	DESCRIPTION.	SCALE OF FEET.
27	Details of Stonework—Centre doorway, McAllister Street Portico. 2 feet to an inch.	
28	Details of Stonework — Entrance doorway to Southwest Pavilion.	do
29	Details of Stonework—Doorways in Main Tower Entrance.	$\frac{1}{4}$ inch to one foot.
30	Details of Stonework — Windows in Entrance.	do

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## Hall of Records.

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31	Plan, with Corridors.	8 feet to an inch.
32	Piers and Arches under Ground Floor.	do
33	Sections.	$1\frac{1}{2}$ inch to one foot.
34	Details of Stonework.	2 feet to an inch.
35	do      do	do
36	do      do	do
37	Iron Bond.	$\frac{1}{3}$ full size.



## General Clauses and Conditions

To be considered, as forming part of the Specifications of Works for the City Hall and Law Courts and Hall of Records, being erected in San Francisco, and subject to the approval of the Board of Commissioners, and to be binding upon any and all parties whatsoever, contracting to construct the said works or any portion of them.

1.—Drawings for the works to be contracted for, numbered from 1 to 37, have been prepared by Augustus Laver, herewith submitted, and the same are to be taken by their true intent and meaning, notwithstanding errors or omissions or discrepancies with each other, or with the Specifications or Contract, as representing the manner and amount of works, for the execution of which the Contractor is to become liable.

2.—If any doubt or doubts should arise as to the intent and meaning of the Drawings or any of them, or of any Detailed Drawings, which may, from time to time, be furnished additional to those enumerated,

in further elucidation thereof, or of the Specification and Articles of Agreement, or should any doubts arise during the erection of the works, or at the measuring of the works, or at making out the Certificates, or on rendering the final accounts, either in reference to works included under the Contract or extraneous thereto, such doubts of every kind shall be judged of, determined and adjusted by the Commissioners solely, or under their authority, when touching structural matters, in relation to the Buildings or otherwise, by their Architect.

3.—Where any discrepancies exist between the dimensions, as indicated by scale and those marked in figures on the Drawings, the figures are to be considered correct, and if there should be any discrepancy between the figures or dimensions or the form of construction or of the material employed, and as indicated by the several drawings and the dimensions and description given in the Specification, the Specification may generally be taken as true; but the interpretation of any or either of them, as determined by the Architect, shall be adopted. And in all cases of defective description or delineation, in either the Drawings, Specification or Articles of Contract, the explanation given by the Architect and the Attorney to the Board respectively, shall be considered correct and binding upon the Contractor.

4.—And, whereas neither the Drawings nor the Specification may contain any specific notice of any minor parts of the work, the intention to include which is nevertheless to be inferred, and which minor and detail parts are common, usual and proper in workmanship of a like character, and which are necessary to the due completion or stability of the work, all such parts are to be found, provided and fixed by the Contractor, and are to be considered to be embraced in the Contract; it being the intention of the Specification and of these Conditions to include all such works of every kind, as may be necessary for completely finishing the works proposed, or for the rectification of any failure from whatever cause arising, and for the well-maintaining and sustaining and supporting of the structure, as well as any, and whatever alteration and addition may be made therein, so that the whole may be completed in the respective trades in a masterly and workmanlike manner, and left sound and firm.

5.—No alteration or omission from or addition to the works contemplated by the Drawings and Specification or the intention thereof, shall in any way invalidate or make void the Contract; provided such alterations, omissions or additions are made by the directions, and under the written authority of the Commissioners.

6.—And although the Drawings illustrative of the whole of the works, as a measure of convenience, have been divided into first and second divisions, and, although the Specification has been drawn in separate trade Sections, it is to be clearly understood, that the said Drawings and Specification, in all their parts, and as a whole, are to be taken as bearing and binding upon each separate trade in their several respective capacities, the same as though the Drawings had not been so classified, and the said trade Sections had not been observed in the Specification.

7.—No Sub-Contract to be made or Sub-Contractor to be employed, except with the express sanction and approval of the Commissioners, and all agents, foremen, mechanics and laborers, or other parties employed on the works, are to be subject to the orders and authority of the Architect, Superintendent of Construction, or other officers in charge of the works, under his direction. And should it appear to the Commissioners or their Architect or the Superintendent, that any agent, foreman, mechanic, laborer or other person so employed, is unskillful, incompetent, negligent, or acting in any way at variance with the Drawings and Specification, by the introduction of inferior materials or workmanship, or in disobedience to any expressed orders given, or to the prejudice of the City and County, in any way what-

ever, the Superintendent or other officer in charge, on direction of the Architect, shall have the power to direct the dismissal and removal of such person ; and such person shall thereupon be dismissed and removed from the works by the Contractor.

8.—And in all cases where any alterations or additions shall involve any increase of expenditure, not included or provided for in the Drawings, Specification or Contract, then authority in writing shall be necessary before such work shall be undertaken ; neither will the same be paid for, nor any allowance be made in any respect thereof, unless the work in question shall have been executed under the authority of such written order, and the said order be produced at the first settlement of extra account, subsequent to the date thereof.

9.—And in all cases where extra work shall have been performed under the authority aforesaid, the quantities and values thereof shall be determined by admeasurement, the Architect (acting under the authority of the Commissioners,) measuring and valuing the same in all cases for the several trades. It is to be understood, however, that, if any extra works shall have been built in or covered up without the necessary admeasurements having first been made, the same shall be uncovered and exposed at the Contractors' expense, or no allowance whatever will be

made in any respect thereof for such work and materials.

10.—And in all cases where the omission of any work called for in the Drawings and Specifications or included in the contract, shall fairly justify a deduction from the sum otherwise due or to become due to the Contractor, the quantities and value of such omitted works shall be ascertained and determined in manner similar to that above described.

11.—The care of the works under the Contract, together with what appertains or belongs thereto, shall be entirely with the Contractor, who shall be wholly and solely liable and responsible for all loss, damage, detriment, and injury that may arise and be sustained during the progress of the works, and until the same shall have been delivered up to and accepted by the Commissioners as complete and perfect in every particular.

12.—The whole of the Works specified are to be executed with the best materials of their respective kinds, and the whole of the workmanship to be performed in the most approved and skillful manner, to the satisfaction of the Commissioners and their Architect; and should at any time improper or unsound materials or unmasterly or faulty workmanship be observed, whether before or after the same has been built in the work, the Contractor shall, upon notice from the

Architect in charge, cause the same to be immediately removed and good and proper materials and sound workmanship be substituted without delay, in lieu thereof, in default of which it shall be lawful for the Commissioners, or their Architect, to effect the same by such other means as may be deemed fit, charging the expenses of such removal and restoration to the Contractor, and deducting the amount from the sum otherwise due or to become due to him under the terms of the Contract.

13.—The Contractors are to find all necessary scaffolding, tools and implements of labor and plant, and whatever else may be required and as specified under the various heads and trades, and necessary to the proper execution of the work, and to temporarily place such examples of the work, or molds or patterns thereof in experiment, to test the style or effect, as the Architect may require, without any charge for any such service.

14.—In case of inclement weather occurring during the progress of the work, which, in the opinion of the Architect, may be detrimental thereto, such precautions shall be taken by the Contractor, without further charge or expense, as may in that view be directed by the Architect in charge; such directions, however, not to be taken as involving the Commis-

sioners or Architect in any responsibility in regard to the preservation of the works.

15.—In the event of the letting of any works additional to those included in these Specifications, to other Contractors than those to whom these may now be let, such new Contractors to be allowed peaceable possession and every proper and reasonable facility for carrying on and executing their contract to such extent and in such manner and at such times as the Architect or Superintendent may direct, whose regulations in regard thereto shall be binding on all parties engaged upon the works, without appeal or damage.

16.—The Contractor shall perform all such work as may be required of him, within such times as shall be allotted to him by the Architect. In order to prevent inconvenience, and not to be at variance with the interests of the City and State nor to the public service, by improper delay on the part of the Contractor, the following course will be adopted :—

The Architect will stipulate the periods by which certain portions of the work are to be completed, and if the Contractor shall fail to complete the first or any subsequent portion within the time so specified, the Architect, under authority of the Board of City Hall Commissioners, will be at liberty to require that the Contractor shall discontinue the work forth-

with, and to employ other persons to execute the remaining portions. Any extra expense that may be incurred by this proceeding to be defrayed by the Contractor.

17.—If the Contractor fail to provide at such times as may be appointed by the Commissioners and the Architect, the number of approved and efficient artizans and workmen for the various services required under contract, the Architect shall have the power to hire as many skilled or other workmen as will complete the number necessary, which in his judgment is requisite to perform the work, and the men thus employed will remain until the termination of such service for which the number may have been demanded.

18.—If the Contractor fail to provide at the appointed time, any materials of the required quality demanded of him by the Contract, the Architect, under the authority of the Commissioners, shall be at liberty to cause such materials, of whatever kind, to be purchased—any additional expense thereby arising to be paid for by the party or parties contracting for the same.

19.—If the Contractor or his workmen, whilst engaged in the service of the Commissioners, break, deface, injure, lose or destroy any part or parts of masonry, brickwork, or any other work belonging to the Board, or damage private buildings or other property

contiguous to the City Hall Reservation, where they are employed, the Contractor shall cause the same to be made good at his own expense, or in default thereof the Commissioners shall cause it to be done; the costs being deducted from any sums due or to become due to the Contractor for the works in progress under the contract.

20.—No work to be underlet or let by task-work by the Contractor, except permission in writing of the Architect shall have been previously obtained on approval of the Commissioners.

21.—The Contractor shall furnish, whenever required, a nominative list of the men under his employ, and also a separate and detailed statement of the artificers and laborers employed, respectively.

22.—The measurements are to be taken from time to time, as stipulated, by the Architect or other delegated responsible measurers appointed by him. And the measurements are to be taken on the part of the Contractor by himself or other persons appointed on his behalf; such persons not being in the employ of the Board of City Hall Commissioners. And should the Contractor fail to attend himself, or to appoint an authorized agent to attend for him, on the day or days appointed for taking the measurements, of which two days' notice will be given, the measurements shall nevertheless be proceeded with by the

Architect, or by his clerks under authority ; and should it afterwards be necessary in consequence of any dispute, that the work should be remeasured, the expenses of such service is to fall on the Contractor, and also to be deducted from the next ensuing instalment, as before prescribed.

23.—If at any time the Contractor shall have reason to complain of undue or excessive severity in the conduct of any officer in charge of the Works in either of the above mentioned cases, or in regard to the dimensions of the work being unfairly taken, or of quantities or qualities of material employed and improperly stated in the progress estimates, the Contractor will, upon his presenting any reasonable cause, or upon representing the circumstances thereof to the Board of Commissioners, have such proper redress as they shall find he is justly entitled to.

24.—The Commissioners or the Architect, or Superintendent, or any other persons deputed by either of them, shall at all times be allowed to inspect works in progress, whether it be at the City Hall Reservation or on the premises belonging to the Contractor.

25.—The Contractor or his accredited agent is, if so required, to reside within three miles of his work, and the Contractor, agent or foreman, is to attend when required, either at the City Hall Commissioners' offices, or on the work, to receive the

orders of the department, to give the necessary directions to his workmen, as occasions demand.

26.—The Contract to be in force

; but, in case the Contractor or other person on his behalf shall pay or give a gratuity or reward to a clerk or other person employed by the Architect, in any way whatsoever, then the Board of City Hall Commissioners shall be at liberty forthwith to cancel the contract, and the Contractor will be required to forfeit the penalty expressed in his bonds.

27.—The Contract will relate only to such work as is stipulated in the specifications, and not interfere with any previous contract already entered into, or with any that may in future be determined on.

28.—The work included under the contract to be commenced forthwith, and to be prosecuted in such a manner as the Commissioners and Architect approve, and the whole shall be completed in every detail and particular in                            working days from the date of signing the contract, unless suspended through strikes or lock-outs of workmen, or by the action of the Commissioners by the authority of the Architect, through the Secretary of the Board; and in the event of the said works respectively, not being fully, truly and faithfully performed at or within the period thus above set forth, the Contractor

shall suffer in such penalty and forfeiture, as stated in the contract attached hereunto, in that behalf. The Contractors shall be further required to find two good, sufficient and acceptable sureties, who with themselves, shall be jointly and severally bound in such penal sum as aforesaid, for the due and faithful performance of the contract in all its parts.

29.—Monthly payments will be made to the Contractor, on the Architect's certificates, subject to the sanction of the Commissioners, in City Hall Warrants, payable in gold, bearing ten per cent. per annum interest from the date of registration thereof until paid, of seventy-five per cent. on the value of the works executed or material delivered during the month preceding, the remaining twenty-five per cent. when the contract is completed. Returns upon which the certificates will be based, and all claims which the Contractor may have for items on account of progress, must be made up to and inclusive of the last day of every month; such returns to be made to the Architect and Superintendent by such person as the Commissioners may designate. And should such items of work or expenditure not be returned in due time, the Contractor will forfeit all claim to payment until the succeeding month shall have expired. The Contractor will be required to afford every assistance demanded by the Architect or the Superintendent of Construction for measuring and rendering

the above returns under such regulations as may be established by the Commissioners.

30.—If the Contractor fail in the faithful fulfillment of any of the foregoing terms and conditions, or in performing the work according to the working plans, detail drawings, specifications and instructions given him from time to time, during the prosecution of the work, by the Architect or Superintending officer in charge under his directions, the Commissioners have the power wholly to terminate this contract.

31.—Intending tenderers requiring the Specification, *et cetera*, can obtain a copy on application to the Secretary of the Commissioners by receipting for the same, which must be returned on the day appointed for receiving bids.

32.—The stamp duty on the Contract and Bond, must be paid by the Contractor.

33.—The expense of advertising for tenders for this contract, must be paid by the successful Contractors, *pro rata*, to the amounts of their several contracts.

34.—Contractors will be held responsible for all losses and damages incurred in any way whatsoever; the utmost security in the placing of derricks and other tackle will be thereby imposed as a safeguard to

the public, who may wish to visit the grounds for the inspection of works in progress; all watchmen required to be employed at the Contractor's expense.

35.—It is to be understood (except where specified to the contrary) that all contract work, where practicable, in every trade, shall be measured and valued according to *pro rata* prices of such contract sum, the prices to be fixed upon previous to the signing of the indenture of agreement, said schedule to be affixed to and form part of the contracts for the guidance of the Architect in making his progress monthly estimates.

36.—A plank road will be made all around the building by the City Hall Commissioners, which will be available for the use of the Contractors.

37.—No bidder will be allowed to deposit more than one bid for the work, and if more than one appear at the opening of the bids, all the bids of such bidder will be thrown out.

38.—The Statute provides "that all bids shall be made and contracts entered into upon the express condition that no Chinaman or Mongolian shall be used in the factory, mill, foundry, workshop, or by the firm, company or person, in doing any of the work bid or contracted for; and a failure to comply with said provision of said contract shall work a forfeiture of said contract."

## Specification of Works.

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### **BRICKLAYER.**

- 1.—To remove all impediments, as may be found necessary before commencement, in and around the site, to provide full and sufficient service ground for the erection of the future work.
- 2.—To render perfectly level the top of the base course and the walls throughout, before the commencement of the superstructure.
- 3.—To level and fill and do all such ground work as required, and leave the site free from all useless materials.
- 4.—To make good and be answerable for, at the Contractor's own cost and expense, all damage that may arise or occur to the works during their prosecution, whether from heavy rains, springs, or caving in of embankments, or any other reasonable cause whatsoever, and to bale out and pump all water.
- 5.—To make all connections with the present drains from the respective water-closets, lavatories,

urinals, overflows, downpipes and surface drainage from the grand central court, and in every way around the building as shown and directed. The Contractor will be required to work to the levels established by the Architect in charge.

6.—At the completion of the works embraced in this specification, all stone spawls, bricks, refuse or rubbish applicable to road making or other useful purpose, shall be deposited in such positions contiguous to these buildings as the Superintendent may direct; and all surfaces within, without and around the buildings shall be left fair, level, clean and free from all collection of refuse; all rejected materials and all *débris* of plant to be removed, and the site left in a creditable condition.

7.—The Contractor will be required to execute all repairs, rebuildings or restoration necessary by reason of any damage, accident or casualty from whatever cause arising, (earthquakes excepted) and finally to transfer all the works in true, square, plumb, lineable, perfect and substantial condition.

8.—The Contractors to provide such assistance by messengers, laborers or others, as may be necessary to the Architect or his clerks, in the performance of their duties.

9.—The Bricklayer will include sand, water,

iron-bond, cramps and anchors, labor and plant, and whatever else is specified; the Commissioners furnishing Brick, Cement, Lime, and descending pipes to drains and connections.

10.—To provide, fix, and maintain and alter, from time to time, and finally to remove when so directed, all manner of sufficient, safe and convenient scaffolding, with all requisite poles, derricks, guys, putlogs, boards, planks, wedges, cords, ropes, pulleys, ladders and all other stock and plant, necessary for the full and proper execution and completion of the Bricklayer's work. All work to be built from scaffolding on both sides of the walls, as no overhand work will be allowed.

11.—To provide all labor, material and appliances necessary for the setting out of the works, under the direction of the Architect or his Assistants.

12.—To attend on and work with all other trades in the execution of all works requisite in giving effect to this Specification as a whole.

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#### M O R T A R .

13.—Mortar for brickwork to be composed of one part Cement, two parts Lime and six parts Sand, well tempered and thoroughly incorporated together,

and used shortly after the time of mixing. The Lime and Sand to be first thoroughly mixed together with a proper proportion of water, and the Cement Mortar afterwards added, the whole remixed and well worked up with an additional quantity of water as required. The Cement and Lime, as furnished by the Commissioners, will be fresh ground and burnt, of quality approved by the Architect and Superintendent in charge of the buildings, and will be delivered upon the ground, from time to time, in such quantities only as will be sufficient for the current progress of the works, and shall be kept under shelter at the Contractor's expense.

14.—The Mortar shall be mixed in mortar-boxes similar to those now in use on the present works, and no box shall be allowed to be served except by regular admeasurements of the component parts.

15.—The Sand used for Mortar must be clean, sharp Sand, of a quality approved by the Architect. If North Beach Sand be required, the cost must be separately stated. Notwithstanding the above directions, it must be distinctly understood that the Architect or Superintendent reserve to themselves the right, in the interest of good workmanship and in this important compound in particular, to change the proportions at their discretion.

16.—All the Cement to be first mixed with the

sand perfectly dry, and a sufficient quantity of water added. The parts to be thoroughly incorporated, and to be of good consistency for the work, and no more to be worked than can be used for the Mortar compound, as previously described in Clause 13.

17.—The works shall be carried on in such parts and such succession of parts, as in the opinion of the Architect and Superintendent may be most advantageous to its stability and proper progress. No walling shall be at any time more than four feet higher than any other walling in the same mass or section of the Building, except the Main Tower, which must be kept at least twelve feet in advance of all other work.

18.—The Architect reserves to himself the fullest right to direct, during the progress of the general work, the construction of those portions of the work to be done, which he may consider most advantageous and best suited in every locality. The intention of this Specification, however, will be understood by Contractors as fairly representing the character of the different works throughout, and as covering all possible building contingencies, usual in all extensive works.

19.—To build all the walls of the heights and thicknesses, and in the positions shown, with all openings, piers, splays, reveals, set-offs, and whatever else is shown on the Drawings or may be necessary to the

proper, substantial and workmanlike manner of carrying out the same. All external return angles to be very carefully built and bonded on both faces, and built to plumb line. All re-entering angles to be kept plumb and true and bonded across, and all jambs and reveals of door, window and other openings to be built solid and plumb. The beds for all window-sills and other horizontal line work, whether in iron or stone, to be accurately leveled up to receive the same.

20.—Every header to be a whole brick, and the walls to be well flushed their whole thickness in every course.

21.—All bricks to be properly wet down previous to use, and each brick to be laid in a full and proper bed of mortar drawn and rubbed into its place, struck and well flushed up, and to point with a neat, flat joint as the work proceeds; no four courses to exceed eleven and one-half inches in height, and to have a course of headers every fifth course; all false headers will be prohibited in the bonding of the work throughout.

22.—To form sufficient relieving arches over all door and window openings, and provide and set wrought iron arch bars  $3'' \times \frac{1}{2}''$ , 3 feet longer than the clear width of the openings, and caulked on the end, three bars to each opening. The arches, whether in-

verted, relieving or discharging, to extend in the depth or through the thickness of the walling as may be requisite. All arches and inverters to be turned in rims and composed of hard clinker bricks.

23.—To cut splay to all internal jambs of doors, windows, archways, or other openings as shown, or as may be proper and ordered during progress.

24.—To turn such arches in three half brick rims, as may be necessary to receive such stone or other steps as are shown in the Drawings.

25.—To turn arches in brick in four rims over fire proof vaults and strong rooms, and fill the spandrels and pack the crowns with first-class concrete, holding two feet above the crown.

26.—To build all chimney breasts, smoke, hot air or ventilating flues, as are shown on the plans, 8 x 12, all to be properly pargetted with mortar compounded of cow droppings, lime and sand, to secure the greatest efficiency and adhesiveness for the plastering of these flues; the whole to be properly and very carefully cored at completion, to insure a thorough and uninterrupted draught and current.

27.—To build all indents and chases, horizontal or vertical, (as the case may be) as may be necessary on the internal face of walls, for receiving soil pipes

or any piping connected with gas, water or heating services.

28.—To furnish and build in the walls, as shown in the drawings, wrought iron Templates, 18" x 12" x  $\frac{1}{2}$ ", to receive the ends of the rolled Iron Joists. To fill in all putlog holes, and make good all defective joints of the brickwork, and clean down all internal exposed faces for whitewashing, as indicated by the plans, in the Basement, for the use of store-rooms or otherwise, and leave the whole work without blemish or imperfection at completion.

29.—To reserve all hard brick rubbish for such uses in the building or about the premises, as the Superintendent in charge may direct; none of the same to be carried off the premises of the Commissioners, unless so ordered.

30.—To provide and fix all necessary and proper boarding for covering over and thoroughly protecting all the walls, in the event of inclement weather or during suspensions of work, whether from any strike of the workmen or from a lockout or from whatever cause arising, and to make all such provision and prevision in regard to the protection of the work from accidental or other damage, as may be rendered necessary or ordered.

31.—To take particular care to secure good and

sufficient bond between inner and outer thicknesses, (as already described,) and to prevent all cavities, flues, chases or other spacee being filled with mortar or refuse.

32.—To provide and build in wrought iron bond in rods and bars, with all nuts, sercws and junctions, as now in use on the works, from the present position to the top of the next floor, (as shown in Section) and insert the same in such manner and positions as may be directed; any bond carried through openings to be cut out after the work has settled, and turned down in lower courses, anchored or otherwise, as may be deemed most seure.

33.—To provide and put in place all and whatever concrete is specified for the packing and span-drels of arches of vaults and strong rooms.

34.—To turn proper arches over all fireplaces, and provide and set Cambered wrought iron ehimney bars,  $2\frac{1}{2}'' \times \frac{1}{2}''$  each, 20 inches longer than the clear width of the openings, and properly eaulked. The fireplaces shall be built of such widths and heights of openings and such projections of breasts as shown, or as the Arehitect may direct during progress.

35.—To turn half brick trimmer arches to all fireplaces, to reeeive the sand or other approved hearth stones.

36.—To properly trap all drains, formed in the pipes, at their connection with soil pipes from water closets, sinks, urinals, lavatories, down pipes from roofs, and gully pipes from surface drainage, *et cetera*. No drain or pipe shall be carried through the brick-work of any main pier in main or tower walls, but the apertures shall be built so far as possible and as ordered, within the vertical lines of upper openings, and left open for the subsequent insertion of drains, *et cetera*, and to be solidly filled in so soon as the pipes shall have been laid through. The quantity of soil and other pipes to be laid and built in the chases of the walls and otherwise connected with the subsidiary drains, may be taken from the plan of the foundations, as laid down for a perfect system of drainage, as provided by the present foundation contracts.

37.—Should any materials be delivered for day work by the Contractor at any time, as ordered for any special work, they shall be placed where they are to be used, or they are to be deposited in sheds or store-rooms at the option of the Commissioners or their officers, to be regularly stacked by the Contractors' workmen for the convenience of counting, weighing or measuring them, without any charge being made in respect thereof.

38.—The Contractor shall furnish weekly, a list of the day workmen's time, should any occur, to be

certified by the Superintendent of works for the information of the Architect and Commissioners, and a plain and clear description of the services on which they have been employed; in default whereof no charge will be allowed for the same.

39.—All materials to be used for day-work, store or measured work, are to be of the best qualities of their several descriptions.

40.—This work, if any, shall be paid for at prices agreed upon, (no allowances being made for waste) and if any articles should be required, supplied and approved, for which no prices are specified, they shall be paid for at prices proportionate to work or materials of a like character performed or delivered; and if any articles should be required that are dissimilar, so as not to admit of being so proportioned, the prices shall be settled previously to their being ordered, and in all cases subject to the percentage prescribed for the contract work.

41.—Sea sand is on no account to be made use of in any process or part of the materials employed in the execution of the brickwork or otherwise.

42.—To build proper projecting cores or corbeling, etc., wherever required, as shown in the details, to receive the joists.

43.—To build brick walls, piers and arches to

carry the ground floor of the Record Hall, as per Drawing No. 32.

44.—All arches, whether circular, skewback, or segmental, to have proper *voussoir* joints. No centres to be struck without permission of the Architect or Superintendent of Construction.

45.—Block bond will be required to strongly incorporate the junctions of brick walls with the stone ashler for the podium, as specified for the cut stonemason. No bats to be used, except as closers, and no four courses to exceed eleven and one-half inches in height, as previously directed.

46.—All openings to be deducted, except in difficult work, where cutting and splays, chases, etc., occur; all flues and cavities of a like character, where extra labor is necessitated, will be taken solid in the measurements for progress and final estimates.

47.—The Contractor to find all the hose, pipes and hydrants, etc., throughout; all bricks used in the work to be soaked in tubs when required, and not merely sprinkled from the nozzle of a hose.

48.—All cramps and anchors of iron, for stone work, are to be boiled in oil and red lead, or other approved preparation, and are to be run with lead, as directed.

49. The centres for all arches and groinings or

otherwise, are to be provided by the contractor and constructed in a careful manner, and are to be inspected by the Superintendent, or by other officers in charge, in his absence, before being placed in their respective positions.

50.—The Contractor will be required to move all materials furnished by the Commissioners for building and otherwise, from the places where they are deposited, to convenient places for working the same up in the building as directed by the Superintendent, in accordance with the plans.

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### Cut Stone.

Including Material, Labor and Setting and Cramps,  
etc., as herein specified.

51.—All the stone to be used throughout the external face of the podium of the building as shown, including Pedestals to Porticos, Record Hall and elsewhere, to be either of sandstone from the various quarries in Alameda or from Angel Island, or limestone, or any other approved stone or artificial stone: —to be carefully selected, sound and free from all stains or other blemish, and to be protected during the progress of the building, so that at completion all

mouldings and projections may be left perfect and clean.

52.—The whole of the work of facing will include the upper moulded plinth or podium of the buildings, Pedestals, etc., window and door jambs, to a uniform height, as indicated by the elevations, Balustrades around the Record Hall, *et cetera*; to be all finely wrought, moulded and set according to the drawings and details at large, now prepared, and which will be prepared from time to time, during the progress of this work; the present drawings giving a fair average of the general character of the work; the average bed for face work, to be as indicated; the whole to be properly bonded and cramped, anchored and dowelled, as shown by the drawings.

53.—All copings and other portions where the upper surface of the stone is exposed to the weather, are to be both set and joggled in hydraulic cement.

54.—The modeling and carving, where required, to be done by first-class artists, who are thoroughly initiated into their business. No carver or modeler will be allowed to work, except under the sanction or license of the Commissioners and their Architect.

55.—To perform all labor in the cutting and setting of the stone, and in joggling, dowelling, cramping and otherwise working it, as may be ordered and shown, till the completion of the work.

56.—To perform also all labor required in cutting holes for pipes of various kinds, or in cutting corbels, bearings for joists, or in any other way required by the various artificers in carrying out the several departments of the contract.

57.—All stonecutters' and carvers' work must be executed at the building, unless by special permission to the contrary from the Commissioners.

58.—Solid stone templates 1' 0" thick, 3' 0" long and 2' 0" wide to be placed to receive the ends of each built-up girder throughout the ground floor, where resting on the walls.

59.—All dowells used throughout the Building to be of slate, 1½ inch square, set diagonally in the vertical joints of every stone, as shown on the drawings.

60.—All mortar used in setting to be composed of boiled lime, the proportions being one of lime to two of coarse sand; all sand impregnated with salt water will be prohibited.

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#### **Directions for Making the Setting Mortar.**

61.—Boil in an ordinary agricultural boiler, half filled with lime, ground under edge rollers, the other

half water, until by evaporation in boiling the whole is reduced to the consistency of cream ; and when all small lumps of live lime are dissipated, mix with sand, in proportion of one of lime to two of sand, properly compounded together.

In setting the stone, use the mortar so that it will not flush to within one-quarter of an inch from the cut face of the stone, to receive the pointing.

In backing behind the stone with brick, this mortar must be used for at least one brick and a half in width ; after that the ordinary cement and lime mortar may be used, so that by capillary attraction or otherwise, no stains will thereby be occasioned on the wrought surfaces of the stonework. If built in cement, the moisture may crop out from the brickwork through the joints of the stone, and cause discoloration of the work, which would necessitate the use of acids to remove the stains.

62.—The stone for the podium, as specified, to be provided, worked and set on the walls, which will be built and levelled ready to receive it, under the directions and to the full satisfaction of the Architect and Superintendent of the Building, in accordance with the accompanying working drawings, in the manner described in the Specification, and also with such further working drawings and instructions as shall be furnished by the Architect for the guidance of the Contractor. The Architect, notwithstanding, will be at

liberty to vary or depart from the drawings now furnished, if he shall see fit to do so; the dimensions of the stones, however, not to be altered in such a way as to materially increase the cost of the work.

63.—The whole of the material for the work shall be of equal and uniform color and quality, similar to the sample which shall accompany the tender for supplying the same; and no stone that has any crack, shake, quartz vein, knot, core or stain, or any other imperfection, will be accepted for the work.

64.—The quarrying must be done in the best manner, so as to produce rectangular blocks, with even and parallel beds; and the stone must all be so quarried that it may set on its natural quarry bed.

65.—The stone shall be quarried out as nearly as possible to the specified size, so as not to require an unusual or unnecessary amount of labor in working, and shall be fairly scabbled at the quarry to the proper size for working.

66.—Any stone quarried and delivered, varying in any respect from the above description, will be rejected, and no payment will be made for any stone which cannot be worked full to the specified size and shape.

67.—The stone must be delivered in such order

as shall be directed by the Architect, and drawings and descriptions of each part of the work, as required, will be furnished to the Contractor; and the Contractor must not quarry any of the stone until he has received instructions from the Architect or Superintendent, under the directions of the Commissioners.

68.—The stones must all be legibly marked with paint, on the top bed, in a manner corresponding with the drawings furnished, before leaving the quarry.

69.—The stone must all be delivered on the City Hall Reservation, in such places and at such times as the Architect or Superintendent shall direct.

70.—Persons tendering for the supply of stone, must furnish with their tenders, samples of the stone they propose to deliver, such sample to be 9" x 6" x 6," part worked fair and part left rough, to show the texture and grain of the material.

71.—The stone is to be all properly squared and dressed, or worked to proper templets or moulds, where the work is not square, circular on plan or otherwise, and necessitates the same. The bottom and top beds to be dressed even, and full and square for their whole depth, and the vertical joints full and square throughout. All the back joints to be dressed square with the beds for the brick backing.

72.—The whole of the exposed parts of the work to be properly dressed, finished and worked with “bush” hammers of eight cuts to seven-eighths of an inch, and afterwards rubbed, as may be directed by the Architect.

73.—Approved Lewis holes (two to each stone), must be cut in every stone as directed by the Architect. The Arrises must all be carefully preserved, and, if in any case they should be damaged before leaving the Contractor’s hands, or if any stones should be improperly worked so as not to be available for the building, the Contractor shall work other stones without any extra payment therefor.

74.—All the stones must be conveyed from the place where they are worked to their proper position in the building, and set with lewises and proper derricks and tackle to insure precision. The stone to be all well bedded and jointed in mortar, quite level and true, and all Arrises to be carefully preserved and protected. All window-sills to be set hollow, as directed. The horizontal joints not to exceed three-sixteenths of an inch in thickness, and the vertical joints one-eighth of an inch. The setting mortar to be composed of sand and boiled lime, mixed in proper proportions as previously directed.

75.—If any stone should be damaged whilst being lifted or conveyed to its place or in being set,

or should be damaged by reason of any act of the Contractor, or of any of his workmen, after being set, the same shall be removed and replaced by a new one or new ones, which shall be provided and worked and set by the Contractor, at his own risk and expense.

76.—The beds and joints to be all raked out and neatly pointed externally, with boiled lime mortar, composed of granite grit, in lieu of sand.

77.—The Contractor must at all times furnish and render all such assistance as the Architect may require for setting out the work.

78.—The Contractor to be responsible for any accident growing out of the failure of the lewises to sustain the stones, or from any other cause, during the progress of the work.

79.—In measuring the material and work, the finished size of the stones, as per drawings, shall be taken as the correct measurement; deduction being made for all openings to the springing of the arches; and in all circular work, the width of the stones shall be measured at their widest part. But if any stones should be wider on the bed than is required by the drawings, no allowance shall be made for such extra width, either for the material or labor. The above applies both to the measurement of the materials and labor.

80.—Should any of the bids for the Natural or Artificial Stones be entertained and accepted by the Commissioners, the stones in every case must be placed in the work on beds parallel to the plane of stratification, or as formed and stratified in the molding of the latter.

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### Firerproofing.

81.—To furnish and deliver on the site, for the basement, ground and two upper floors, Rolled Iron Joists of the prescribed patterns and mode of execution, as indicated by the drawings and details at large, and by the full descriptions and explanations contained therein; the joists to bear 12 inches on the walls. The size of the joists to be regulated according to the length of the bearing, by memoranda and bill of quantities hereunto annexed, and according to the Drawings furnished. Each joist to be thoroughly coated with red lead, paint or tar, previous to their leaving the mill.

82.—Separate prices will be required for the various portions, as set forth by the schedule.

83.—The delivery of the Iron Joists for the Base-

ment floor, will not be required previous to the 1st of July, 1873.

84.—All Wrought Iron work to be examined and approved by the Architect, or some person appointed by him, before being painted, and (if required) to be also tested by the Contractor, to the satisfaction of the Architect, before being placed in the building.

85.—All Patterns to be submitted for approval of the Architect, before being moulded.

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### Built-up Iron Girders and Cast Iron Columns.

86.—To provide (20) Twenty Wrought Iron Girders, prepared to given patterns, built up of boiler plate, having webs, plates, angle irons, etc.; the angle irons and top and bottom strings to be welded in single lengths; properly riveted together, ready for fixing; all of the sizes, etc., shown in the drawings. These Girders to be placed hereafter in situations where required, and as indicated on the first-story plan, to receive the ends of the intermediate joists, and to be painted one coat in red lead, or Prince's Metallic Paint, before leaving the workshop.

87.—To provide and fix (7) Seven Cast Iron Columns, having molded caps and bases, of the size, form and substance shown in the drawings, to serve as intermediary supports for the built-up Iron Girders. The castings to be all made from the best quality of pig iron, sound and free from all air-holes, cold shuts or any other imperfections; the top and bottom ends of the shafts to be turned in a lathe, and the top and bottom plates to be planed off to fit the Girder, to insure precision in fixing; the rivet holes countersunk; to be properly fitted, placed in position and cleaned off, and to be painted one coat of red lead, or Prince's Metallic Paint, before leaving the foundry. All patterns for the Columns to be submitted to the Architect for approval before being molded.

88.—All Wrought and Cast Iron work to be examined and approved by the Architect, or some person appointed by him, before being painted, and, if required, to be also tested by the Contractor to the satisfaction of the Architect, previous to its being placed in the building.

NOTE.—All smiths' work in every case, as specified, for straps, bolts, window and chimney bars, etc., to be forged clean from the anvil and evenly diminished, as the case may demand. All welds, turnings and caulks to be sound; full cut threads to all

external and internal screw-work; holes to be punched clean and burs cleaned off; counter sinks to be concentric, either punched or drilled.

NOTE.—In all materials requiring weighing, the requisite scales and stamped weights will be furnished by the Commissioners on the ground, and weighed by their own officers, as directed by the Architect or Superintendent, the Contractor appointing his agent to be present at his discretion.

#### B R I C K .

10,000,000 (Ten Millions) hard, smooth, well-burnt, square Bricks to be furnished. They must be made from good clay, free from stone cores; of even color, of the uniform size of  $8\frac{1}{2}''$  x  $4''$  x  $2\frac{3}{8}''$ , and delivered on the City Hall Reservation, in such places, quantities and at such times as the Superintendent, under the instructions of the Architect, shall direct.

Each bidder will state what quantity of bricks he will furnish within one year, at what times he can deliver them, in what quantities and at what price. The lowest bids will be accepted, until the whole quantity shall be completed; provided the quality and facilities for manufacture and delivery be approved. Samples of the bricks intended to be furnished, with a designative mark plainly cut in each, must accompany each bid.

**L I M E .**

5,000 Barrels of Lime to be supplied ; good, fresh, well burnt lime, free from cores, and approved by the Architect. Each barrel must contain 230 pounds weight of lime, net. The lime must be delivered on the City Hall Reservation, in such places as the Superintendent, under the instructions of the Architect, shall direct, and also in such quantities and at such times as shall be required by him. The empty barrels to be the property of the Contractor, collected and taken away by him, and persons tendering must take this into consideration, in submitting their tenders.

**C E M E N T .**

5,000 Barrels of Hydraulic Cement to be supplied ; fresh, properly ground, and approved by the Architect, each barrel to contain 300 pounds, net. The Cement must be delivered on the City Hall Reservation, in such places as the Superintendent, under the instructions of the Architect, shall direct ; and also in such quantities and at such times as shall be required by him. The empty barrels to be the property of the Contractor, collected and taken away by him, and persons tendering must take this into consideration in submitting their tenders.

## Order of Proposals.

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Make Separate Tender.

1.—For Cut Stone furnished, worked and rubbed and built in the walls, in a bulk sum, providing all Iron cramps, slate dowels fixed with Cement, Anchors, etc., also implements of labor, water and sand and all other matters and materials, required for the work (except such as are expressly stipulated to be provided by the Commissioners) and wash down and leave all clean at completion, all as per specification, and as shown in Detail Drawings.

2.—For same work (as in clause 1), omitting vermiculated Rustications in Arches of windows, together with all Fluting on Pedestals, Window and Door Jambs, etc.

3.—For Building Brickwork at per thousand bricks laid in the work, 20 bricks to the foot, including the fixing of all Iron bonding, anchors and cramps and sand, water, scaffolding, centreing and tools, etc., as specified in Bricklayer's specification. State price per pound for Iron cramps and anchors specified to be

furnished, and a bulk sum for furnishing Iron bonding, as specified in clause 32.

4.—For furnishing and delivery of Bricks, on the City Hall Reservation, and as directed by the Architect and Superintendent, at per thousand bricks, as per advertisement and specification.

5.—For furnishing and delivery of Hydraulic Cement, on the City Hall Reservation, and as directed by the Architect and Superintendent, at per barrel, as per advertisement and specification.

6.—For furnishing and delivery of Lime, on the City Hall Reservation, and as directed by the Architect and Superintendent, at per barrel, as per advertisement and specification.

7.—For furnishing Rolled Iron Joists, delivered on City Hall Reservation, at per ton of 2.240 lbs.—floor by floor—as per schedule.

8.—For furnishing Built up Iron Girders and Cast Iron Columns of the size, etc., shown in the Drawings, in a bulk sum.

9.—For fixing, fitting and laying Rolled Iron Joists, throughout, and Built up Girders, as per specification and drawings, in a bulk sum.

10.—For Building Brickwork (as in clause 2), per thousand bricks, if North Beach sand be used.

11.—For facing the Basement with Brick, in lieu of Stone, to receive the Stucco, including the Stucco creasing for the main string course, as shown on drawings for this work, per thousand bricks.

12.—For same work as in Clause 1, with the omissions in Clause 2, the bed size of Stones being eight and twelve inches instead of the size shown in the Drawings.

13.—For same work as in Clause 12, the bed size of Stones being eight and sixteen inches.

NOTE.—Bidders wishing to put in a bulk tender for the whole of the foregoing, or any given portion thereof, will be allowed to do so at their discretion.

NOTE.—The Contractor for Brickwork will be required to provide proper storehouses for the protection and storage of the Lime and Cement.

NOTE.—The delivery of the 5,000 Barrels Cement will be required to commence at once, on the signing of the Contract, at the rate of about 1,000 Barrels per month, the whole delivery to be completed within six months.



Schedules and Abstracts  
OF  
**ROLLED IRON JOISTS,**  
FOR  
**NEW CITY HALL.**

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San Francisco, Cal., October, 1872.



## SCHEDULE OF ROLLED IRON JOISTS.

DRAWING NO. 1.	BASEMENT FLOOR.	No. of Drawing.	Floor.	Mark on Plan.	No. of Joists.	LENGTH in ft. in.	Depth. Inches.	Weight per foot lb.	Total Length in ft. in.	Total Weight in lbs.
				<i>a</i>	5	19 8	12	42		
				<i>b</i>	5	19 8	12	42		
				<i>c</i>	5	17 6	12	42		
				<i>d</i>	2	22 0	12	42		
				<i>e</i>	2	14 9	10	32		
				<i>f</i>	2	19 3	12	42		
				<i>g</i>	1	17 6	12	42		
				<i>h</i>	1	14 0	10	32		
				<i>i</i>	2	19 0	12	42		
				<i>k</i>	13	17 10	12	42		
				<i>l</i>	3	13 10	8	28		
				<i>m</i>	3	13 10	8	28		
				<i>n</i>	2	13 10	8	28		
				<i>o</i>	2	13 10	8	28		
				<i>p</i>	3	16 0	10	32		
				<i>q</i>	1	14 3	10	32		
				<i>r</i>	3	19 0	12	42		
				<i>s</i>	3	19 0	12	42		
				<i>t</i>	1	15 9	10	32		

## SCHEDULE OF ROLLED IRON JOISTS.

DRAWING No. 1.	No. of Drawing.	Floor.	Mark on Plan.	No. of Joists.	LENGTH in ft.      in.	Depth. Inches.	Weight per foot lb.	Total Length in ft.      in.		Total Weight in lbs.
BASEMENT FLOOR.	<i>t</i>			2	14 0	10	32			
	<i>u</i>			1	15 9	10	32			
	<i>ditto</i>			2	14 0	10	32			
	<i>v</i>			2	14 9	10	32			
	<i>w</i>			14	17 10	12	42			
	<i>x</i>			2	13 0	8	28			
	<i>y</i>			2	13 6	8	28			
	<i>z</i>			2	9 0	8	28			

## SCHEDULE OF ROLLED IRON JOISTS.

DRAWING NO. 1.	Floor.	Mark on Plan.	No. of Joists,	LENGTH in ft.    in.	Depth, Inches.	Weight per foot lb	Total Length in ft.    in.	Total Weight in lbs.
BASEMENT FLOOR.		<i>a</i> <sup>1</sup>	2	15    0	10	32		
		<i>b</i> <sup>1</sup>	2	18    9	12	42		
		<i>c</i> <sup>1</sup>	2	15    0	10	32		
		<i>d</i> <sup>1</sup>	3	20    9	12	42		
		<i>e</i> <sup>1</sup>	2	13    10	8	28		
		<i>f</i> <sup>1</sup>	1	20    0	12	42		
		<i>g</i> <sup>1</sup>	3	17    10	12	42		
		<i>h</i> <sup>1</sup>	2	17    10	12	42		
		<i>i</i> <sup>1</sup>	2	15    3	10	32		
		<i>k</i> <sup>1</sup>	5	23    6	12	56		
		<i>l</i> <sup>1</sup>	5	23    6	12	56		
		<i>m</i> <sup>1</sup>	5	15    0	10	32		
		<i>n</i> <sup>1</sup>	5	23    6	12	56		
		<i>o</i> <sup>1</sup>	5	23    6	12	56		
		<i>p</i> <sup>1</sup>	23	17    0	12	42		
		<i>q</i> <sup>1</sup>	2	15    0	10	32		
		<i>r</i> <sup>1</sup>	2	17    10	12	42		
		<i>s</i> <sup>1</sup>	2	13    0	8	28		
		<i>t</i> <sup>1</sup>	2	17    0	12	42		

## SCHEDULE OF ROLLED IRON JOISTS.

DRAWING No. 1.	No. of Drawing.	Floor.	Mark on Plan.	No. of Joists.	LENGTH		Depth. Inches.	Weight per foot lb.	Total Length in ft. in.		Total Weight in lbs.
					ft.	in.			ft.	in.	
		BASEMENT FLOOR.	<i>u</i> <sup>1</sup>	2	16	0	10	32			
			<i>v</i> <sup>1</sup>	1	20	0	12	42			
			<i>w</i> <sup>1</sup>	12	17	10	12	42			
			<i>x</i> <sup>1</sup>	4	12	6	8	28			
			<i>y</i> <sup>1</sup>	3	20	4	12	42			
			<i>z</i> <sup>1</sup>	1	13	6	8	28			

## SCHEDULE OF ROLLED IRON JOISTS.

No. of Drawing.	Floor.	Mark on Plan.	No. of Joists.	LENGTH in ft.    in.	Depth. Inches.	Weight per foot lb.	Total Length in ft.    in.	Total Weight in lbs.
DRAWING NO. 1.	BASEMENT FLOOR.	<i>a</i> <sup>2</sup>	2	16 10	10	32		
		<i>b</i> <sup>2</sup>	2	16 10	10	32		
		<i>c</i> <sup>2</sup>	2	13 0	8	28		
		<i>d</i> <sup>2</sup>	2	14 3	10	32		
		<i>e</i> <sup>2</sup>	5	16 10	10	32		
		<i>f</i> <sup>2</sup>	3	15 9	10	32		
		<i>g</i> <sup>2</sup>	3	14 9	10	32		
		<i>h</i> <sup>2</sup>	3	15 9	10	32		
		<i>i</i> <sup>2</sup>	5	17 0	12	42		
		<i>k</i> <sup>2</sup>	26	17 10	12	42		
		<i>l</i> <sup>2</sup>	1	20 0	12	42		
		<i>m</i> <sup>2</sup>	13	17 0	12	42		
		<i>n</i> <sup>2</sup>	3	12.6	8	28		
		<i>o</i> <sup>2</sup>	3	12 6	8	28		
		<i>p</i> <sup>2</sup>	3	12 0	8	28		
		<i>q</i> <sup>2</sup>	3	12 0	8	28		
		<i>r</i> <sup>2</sup>	3	15 9	10	32		
		<i>s</i> <sup>2</sup>	3	16 0	10	32		
		<i>t</i> <sup>2</sup>	3	20 4	12	42		

## SCHEDULE OF ROLLED IRON JOISTS.

DRAWING No. 1.	No. of Drawing.	Floor.	Mark on Plan.	No. of Joists.	LENGTH in ft. in.		Depth. Inches.	Weight per foot lb.	Total Length in ft. in.	Total Weight in lbs.
					ft.	in.				
<b>BASEMENT FLOOR.</b>										
	$u^2$			3	21	0	12	56		
	$v^2$			3	21	0	12	56		
	$w^2$			2	22	9	12	56		
	$x^2$			1	17	0	10	32		
	<i>ditto</i>			1	12	0	8	28		
	$y^2$			3	22	9	12	56		
	$z^2$			5	16	10	10	32		

## SCHEDULE OF ROLLED IRON JOISTS.

DRAWING NO. 1.	BASEMENT FLOOR.	No. of Drawing.	Floor.	Mark on Plan.	No. of Joists,	LENGTH in ft. in.	Depth. Inches.	Weight per foot lb.	Total Length in ft. in.	Total Weight in lbs.
<i>a</i> <sup>3</sup>		3		16 0		10		32		
		<i>b</i> <sup>3</sup>		15 9		10		32		
		<i>c</i> <sup>3</sup>		14 6		10		32		
		<i>d</i> <sup>3</sup>		14 6		10		32		
		<i>e</i> <sup>3</sup>		16 10		12		42		
		<i>f</i> <sup>3</sup>		16 10		12		42		
		<i>g</i> <sup>3</sup>		14 6		10		32		
		<i>h</i> <sup>3</sup>		16 10		12		42		
		<i>i</i> <sup>3</sup>		16 10		12		42		
		<i>k</i> <sup>3</sup>		16 10		10		32		
		<i>l</i> <sup>3</sup>		16 10		10		32		
		<i>m</i> <sup>3</sup>		16 10		12		42		
		<i>n</i> <sup>3</sup>		16 10		12		42		
		<i>o</i> <sup>3</sup>		16 10		12		42		
		<i>p</i> <sup>3</sup>		16 10		12		42		
		<i>q</i> <sup>3</sup>		16 10		10		32		
		<i>r</i> <sup>3</sup>		16 10		10		32		
		<i>s</i> <sup>3</sup>		16 0		10		32		
		<i>t</i> <sup>3</sup>		14 9		10		32		

## SCHEDULE OF ROLLED IRON JOISTS.

DRAWING No. 1.	BASEMENT FLOOR.	No. of Drawing.	Floor.	Mark on Plan.	No. of Joists.	LENGTH in ft.      in.	Depth. Inches.	Weight per foot lb.	Total Length in ft.      in.	Total Weight in lbs.
		$u^3$		2	12 0		8	28		
		$v^3$		1	13 6		8	28		
		$w^3$		1	13 3		8	28		
		$x^3$		2	23 6		12	56		
		$y^3$		5	14 3		10	32		
		$z^3$		5	14 3		10	32		

# SCHEDULE OF ROLLED IRON JOISTS.

No. of Drawing.	Floor.	Mark on Plan.	No. of Joists.	LENGTH in ft.      in.	Depth, Inches.	Weight per foot lb.	Total Length in ft.      in.	Total Weight in lbs.
DRAWING No. 1.	BASEMENT FLOOR.	<i>a</i> <sup>4</sup>	6	20 0	12	42		
		<i>b</i> <sup>4</sup>	6	11 0	8	28		
		<i>c</i> <sup>4</sup>	6	11 0	8	28		
		<i>d</i> <sup>4</sup>	6	11 0	8	28		
		<i>e</i> <sup>4</sup>	8	21 9	12	42		
		<i>f</i> <sup>4</sup>	7	17 10	12	42		

# Abstract of Basement Floor Joists.

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## Corridors and Staircases.

No. of Joists.	Length in ft.      in.	Depth in inches.	Weight per foot in lbs.	TOTAL LENGTH in feet,    inches.	TOTAL WEIGHT In lbs.
3	22      9	12	56	68      3	3,821.8
8	21      9	12	42	174      0	
3	20      9	12	42	62      3	
6	20      0	12	42	120      0	
75	17      10	12	42	1,337      6	
41	17      0	12	42	697      0	100,411.5
				<u>2,390      9</u>	
2	15      9	10	32	31      6	
2	15      3	10	32	30      6	
4	14      0	10	32	56      0	3,776
				<u>118      0</u>	
10	12      6	8	28	125      0	
18	11      0	8	28	198      0	9,044
				<u>323      0</u>	

**Abstract of Basement Floor Joists. *Continued.***

**Rooms.**

No. of Joists.	Length in ft.    in.	Depth in Inches.	Weight per foot in lbs.	TOTAL LENGTH in feet.    inches.	TOTAL WEIGHT in lbs.
22	23    6	12	56	517    0	
2	22    9	12	56	45    6	
6	21    0	12	56	126    0	38,555.6
				688    6	
2	22    0	12	42	44    0	
6	20    4	12	42	122    0	
3	20    0	12	42	60    0	
10	19    8	12	42	196    8	
2	19    3	12	42	38    6	
8	19    0	12	42	152    0	
2	18    9	12	42	37    6	
4	17    10	12	42	71    4	
6	17    6	12	42	105    0	
2	17    0	12	42	34    0	
16	16    10	12	42	269    4	47,474.0
				1,130    4	

**Abstract of Basement Floor Joists. *Continued.*****Rooms.**

No. of Joists.	Length in ft. in.		Depth in Inches.	Weight per foot in lbs.	TOTAL LENGTH in feet. inches.		TOTAL WEIGHT in lbs.
1	17	0	10	32	17	0	
24	16	10	10	32	404	0	
13	16	0	10	32	208	0	
12	15	9	10	32	189	0	
11	15	0	10	32	165	0	
9	14	9	10	32	132	9	
9	14	6	10	32	130	6	
13	14	3	10	32	185	3	
1	14	0	10	32	14	0	46,256.0
					1,445	6	
12	13	10	8	28	166	0	
4	13	6	8	28	54	0	
1	13	3	8	28	13	3	
6	13	0	8	28	78	0	
9	12	0	8	28	108	0	
2	9	0	8	28	18	0	12,244.0
					437	3	

## SCHEDULE OF ROLLED IRON JOISTS.

DRAWING NO. 2.	FLOOR.	No. of Drawing.	Mark on Plan.	No. of Joists.	LENGTH in ft. in.	Depth. Inches.	Weight per foot lb.	Total Length in ft. in.	Total Weight in lbs.
FIRST STORY.		<i>a</i>	5	19 6	12	42			
		<i>b</i>	5	19 6	12	42			
		<i>c</i>	5	18 0	12	42			
		<i>d</i>	2	22 6	12	56			
		<i>e</i>	2	15 6	10	32			
		<i>f</i>	2	19 6	12	42			
		<i>g</i>	1	18 0	12	42			
		<i>h</i>	1	14 0	10	32			
		<i>i</i>	2	14 0	10	32			
		<i>k</i>	13	18 0	12	42			
		<i>l</i>	3	23 6	15	66			
		<i>m</i>	3	16 6	10	32			
		<i>n</i>	1	14 6	8	28			
		<i>o</i>	2	14 6	8	28			
		<i>p</i>	2	19 0	12	42			
		<i>q</i>	14	18 6	12	42			
		<i>r</i>	3	18 0	12	42			
		<i>s</i>	2	18 6	12	42			
		<i>t</i>	2	15 6	10	32			

## SCHEDULE OF ROLLED IRON JOISTS.

No. of Drawing.	Floor.	Mark on Plan.	No. of Joists.	LENGTH		Depth.	Weight per foot lb.	Total Length in ft. in.	Total Weight in lbs.
				in	ft. in.				
DRAWING No. 2.	FIRST STORY.	<i>u</i>	6	14	0	8	28		
		<i>v</i>	2	15	6	10	32		
		<i>w</i>	2	19	0	12	42		
		<i>x</i>	2	15	6	10	32		
		<i>y</i>	2	9	6	8	28		
		<i>z</i>	2	14	0	8	28		

## SCHEDULE OF ROLLED IRON JOISTS.

No. of Drawing.	Floor.	Mark	No.	LENGTH		Depth.	Weight	Total	Total
		on Plan.	of Joists,	in ft.	in.	Inches.	per foot lb.	Length in ft. in.	Weight in lbs.
DRAWING NO. 2.	FIRST STORY.	a <sup>1</sup>	2	14	0	8	28		
		b <sup>1</sup>	2	14	0	8	28		
		c <sup>1</sup>	2	21	0	12	42		
		d <sup>1</sup>	9	20	0	12	42		
		e <sup>1</sup>	5	24	0	12	56		
		f <sup>1</sup>	5	24	0	12	56		
		g <sup>1</sup>	5	15	6	10	32		
		h <sup>1</sup>	5	24	0	12	56		
		i <sup>1</sup>	5	24	0	12	56		
		k <sup>1</sup>	23	18	0	12	42		
		l <sup>1</sup>	9	20	0	12	42		
		m <sup>1</sup>	2	21	0	12	42		
		n <sup>1</sup>	2	16	6	10	32		
		o <sup>1</sup>	2	15	6	10	32		
		p <sup>1</sup>	2	18	6	12	42		
		q <sup>1</sup>	2	13	6	8	28		
		r <sup>1</sup>	2	17	6	12	42		
		s <sup>1</sup>	3	20	0	12	42		
		t <sup>1</sup>	1	13	6	8	28		

## SCHEDULE OF ROLLED IRON JOISTS.

No. of Drawing.	Floor.	Mark on Plan.	No. of Joists.	LENGTH in ft. in.	Depth. Inches.	Weight per foot lb.	Total Length in ft. in.	Total Weight in lbs.
DRAWING No. 2.	FIRST STORY.	<i>u</i> <sup>1</sup>	4	23 6	12	56		
		<i>v</i> <sup>1</sup>	2	13 6	8	28		
		<i>w</i> <sup>1</sup>	2	14 6	8	28		
		<i>x</i> <sup>1</sup>	5	16 9	12	42		
		<i>y</i> <sup>1</sup>	5	17 3	12	42		
		<i>z</i> <sup>1</sup>	3	16 9	12	42		

## SCHEDULE OF ROLLED IRON JOISTS.

No. of Drawing.	Floor.	Mark on Plan.	No. of Joists.	LENGTH		Depth, Inches.	Weight per foot lb.	Total Length in ft. in.	Total Weight in lbs.
				in ft.	in.				
FIRST STORY.									
		<i>a</i> <sup>2</sup>	12	18	6	12	42		
		<i>b</i> <sup>2</sup>	26	18	6	12	42		
		<i>c</i> <sup>2</sup>	5	18	0	12	42		
		<i>d</i> <sup>2</sup>	5	16	9	12	42		
		<i>e</i> <sup>2</sup>	5	17	3	12	42		
		<i>f</i> <sup>2</sup>	1	16	9	12	42		
		<i>g</i> <sup>2</sup>	1	16	9	12	42		
		<i>h</i> <sup>2</sup>	1	16	9	12	42		
		<i>i</i> <sup>2</sup>	3	15	6	10	32		
		<i>k</i> <sup>2</sup>	3	25	0	15	66		
		<i>l</i> <sup>2</sup>	3	25	0	15	66		
		<i>m</i> <sup>2</sup>	3	15	6	10	32		
		<i>n</i> <sup>2</sup>	8	24	0	12	56		
		<i>o</i> <sup>2</sup>	6	10	6	8	28		
		<i>p</i> <sup>2</sup>	6	10	6	8	28		
		<i>q</i> <sup>2</sup>	6	10	6	8	28		
		<i>r</i> <sup>2</sup>	6	20	6	12	42		
		<i>s</i> <sup>2</sup>	5	14	6	8	28		
		<i>t</i> <sup>2</sup>	5	14	6	8	28		

## SCHEDULE OF ROLLED IRON JOISTS.

DRAWING No. 2, FIRST STORY.	No. of Drawing. Floor.	Mark on Plan.	No. of Joists.	LENGTH in ft.      in.		Depth. Inches.	Weight per foot lb.	Total Length in ft.      in.	Total Weight in lbs.
				ft.	in.				
		$u^2$	3	23	6	12	56		
		$v^2$	7	18	6	12	42		
		$w^2$	1	13	6	8	28		
		$x^2$	1	13	6	8	28		
		$y^2$	2	16	9	10	32		
		$z^2$	3	24	0	12	56		

## SCHEDULE OF ROLLED IRON JOISTS.

No. of Drawing.	Floor.	Mark on Plan.	No. of Joists,	LENGTH		Depth. Inches.	Weight per foot lb.	Total Length in ft. in.	Total Weight in lbs.							
				ft.	in.											
DRAWING NO. 2.																
FIRST STORY.																
		<i>a</i> <sup>3</sup>	2	17	0	10	32									
		<i>b</i> <sup>3</sup>	2	17	0	10	32									
		<i>c</i> <sup>3</sup>	3	17	0	10	32									
		<i>d</i> <sup>3</sup>	3	17	0	10	32									
		<i>e</i> <sup>3</sup>	2	17	0	10	32									
		<i>f</i> <sup>3</sup>	2	17	0	10	32									
		<i>g</i> <sup>3</sup>	3	17	0	10	32									
		<i>h</i> <sup>3</sup>	3	17	0	10	32									
		<i>i</i> <sup>3</sup>	3	24	6	15	66									
		<i>k</i> <sup>3</sup>	3	16	6	10	32									
		<i>l</i> <sup>3</sup>	3	16	6	10	32									
		<i>m</i> <sup>3</sup>	3	20	6	12	42									
		<i>n</i> <sup>3</sup>	3	21	0	12	42									
		<i>o</i> <sup>3</sup>	3	21	0	12	42									
		<i>p</i> <sup>3</sup>	1	20	0	12	42									
		<i>q</i> <sup>3</sup>	1	19	0	12	42									
		<i>r</i> <sup>3</sup>	2	22	6	12	56									
		<i>s</i> <sup>3</sup>	9	20	0	12	42									
		<i>t</i> <sup>3</sup>	2	21	0	12	42									

## SCHEDULE OF ROLLED IRON JOISTS.

No. of Drawing.	Floor.	Mark	No.	LENGTH in ft.      in.	Depth. Inches.	Weight per foot lb.	Total Length in ft.      in.	Total Weight in lbs.
		on Plan.	of Joists.					
DRAWING No. 2.	FIRST STORY.	<i>u</i> <sup>3</sup>	13	18    0	12	42		
		<i>v</i> <sup>3</sup>	9	20    0	12	42		
		<i>w</i> <sup>3</sup>	23	12    0	8	28		

# Abstract of First Story Joists.

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## Corridors and Staircases.

No. of Joists,	Length in ft.    in.	Depth in inches.	Weight per foot in lbs.	TOTAL LENGTH in feet.    inches.	TOTAL WEIGHT In lbs.
8	24    0	12	56	192    0	10,752.0
6	20    0	12	42	120    0	
63	18    6	12	42	1,165    6	
57	18    0	12	42	1,026    0	97,083.0
				<u>2,311    6</u>	
23	12    0	8	28	276    0	
18	10    6	8	28	189    0	13,020.0
				465    0	

## Rooms.

6	25    0	15	66	150    0	
3	24    6	15	66	73    6	14,751.0
				<u>223    6</u>	

**Abstract of First Story Joists. *Continued.***

**Rooms.**

No. of Joists.	Length in ft.    in.		Depth in Inches.	Weight per foot in lbs.	TOTAL LENGTH in feet.    inches.		Total Weight In lbs.
25	24	0	12	56	600	0	
7	23	6	12	56	164	6	
4	22	6	12	56	90	0	47,852.0
					854	6	
12	21	0	12	42	252	0	
3	20	6	12	42	61	6	
40	20	0	12	42	800	0	
12	19	6	12	42	234	0	
5	19	0	12	42	95	0	
6	18	0	12	42	108	0	
2	17	6	12	42	35	0	
10	17	3	12	42	172	6	
16	16	9	12	42	268	0	85,092.0
					2,026	0	
20	17	0	10	32	340	0	
2	16	9	10	32	33	6	
11	16	6	10	32	181	6	

**Abstract of First Story Joists. *Continued.***

**Rooms.**

No. of Joists.	Length in ft.    in.	Depth in Inches.	Weight per foot in lbs.	TOTAL LENGTH in feet.    inches.	TOTAL WEIGHT In lbs.
21	15    6	10	32	325    6	
3	14    0	10	32	42    0	29,520.0
				<u>922    6</u>	
15	14    6	8	28	217    6	
12	14    0	8	28	168    0	
7	13    6	8	28	94    0	
2	9    6	8	28	19    0	13,972.0
				<u>499    6</u>	

## SCHEDULE OF ROLLED IRON JOISTS.

No. of Drawing.	Floor.	Mark on Plan.	No. of Joists.	LENGTH in ft.    in.	Depth. Inches.	Weight per foot lb.	Total Length in ft.    in.	Total Weight in lbs.
DRAWING NO. 3.	SECOND STORY.	<i>a</i>	4	16 0	10	32		
		<i>b</i>	4	14 8	10	32		
		<i>c</i>	4	16 0	10	32		
		<i>d</i>	3	19 0	10	32		
		<i>e</i>	1	19 0	12	42		
		<i>f</i>	7	18 0	12	42		
		<i>g</i>	2	22 6	12	56		
		<i>h</i>	2	16 0	10	32		
		<i>i</i>	2	19 10	12	42		
		<i>k</i>	4	24 9	15	66		
		<i>l</i>	5	24 9	15	66		
		<i>m</i>	3	24 9	15	66		
		<i>n</i>	6	15 0	10	32		
		<i>o</i>	3	24 0	12	56		
		<i>p</i>	3	17 0	10	32		
		<i>q</i>	1	15 0	10	32		
		<i>r</i>	2	15 0	10	32		
		<i>s</i>	6	18 0	12	42		
		<i>t</i>	14	19 0	12	42		

## SCHEDULE OF ROLLED IRON JOISTS.

No. of Drawing.	Floor.	Mark on Plan.	No. of Joists.	LENGTH in ft.      in.		Depth. Inches.	Weight per foot lb.	Total Length in ft.      in.	Total Weight in lbs.
				ft.	in.				
DRAWING No. 3.  SECOND STORY.		<i>u</i>	2	14	3	10	32		
		<i>v</i>	2	14	3	10	32		
		<i>w</i>	2	9	6	8	28		
		<i>x</i>	2	15	9	10	32		
		<i>y</i>	2	19	6	12	42		
		<i>z</i>	1	15	0	10	32		

## SCHEDULE OF ROLLED IRON JOISTS.

DRAWING NO. 3.	No. of Drawing.	Floor.	Mark on Plan.	No. of Joists,	LENGTH in ft. in.	Depth, Inches.	Weight per foot lb.	Total Length in ft. in.	Total Weight in lbs.
SECOND STORY.	<i>a</i> <sup>1</sup>			2	19 0	12	42		
	<i>b</i> <sup>1</sup>			2	16 0	10	32		
	<i>c</i> <sup>1</sup>			5	24 3	12	56		
	<i>d</i> <sup>1</sup>			5	24 6	12	56		
	<i>e</i> <sup>1</sup>			5	16 0	10	32		
	<i>f</i> <sup>1</sup>			5	24 6	12	56		
	<i>g</i> <sup>1</sup>			5	24 3	12	56		
	<i>h</i> <sup>1</sup>			2	16 0	10	32		
	<i>i</i> <sup>1</sup>			2	19 0	12	42		
	<i>k</i> <sup>1</sup>			2	14 0	10	32		
	<i>l</i> <sup>1</sup>			2	18 0	12	42		
	<i>m</i> <sup>1</sup>			41	18 0	12	42		
	<i>n</i> <sup>1</sup>			2	14 6	10	32		
	<i>o</i> <sup>1</sup>			2	21 6	12	42		
	<i>p</i> <sup>1</sup>			9	21 0	12	42		
	<i>q</i> <sup>1</sup>			4	25 6	15	66		
	<i>r</i> <sup>1</sup>			4	25 6	15	66		
	<i>s</i> <sup>1</sup>			9	21 0	12	42		
	<i>t</i> <sup>1</sup>			2	18 0	12	42		

## SCHEDULE OF ROLLED IRON JOISTS.

No. of Drawing.	Floor.	Mark on Plan.	No. of Joists.	LENGTH		Depth. Inches.	Weight per foot lb.	Total Length in ft. in.	Total Weight in lbs.
				ft.	in.				
DRAWING NO. 3.  SECOND STORY.		<i>u</i> <sup>1</sup>	2	17	0	10	32		
		<i>v</i> <sup>1</sup>	2	21	6	12	42		
		<i>w</i> <sup>1</sup>	1	14	0	8	28		
		<i>x</i> <sup>1</sup>	3	20	3	12	42		
		<i>y</i> <sup>1</sup>	4	24	0	12	56		
		<i>z</i> <sup>1</sup>	2	13	9	8	28		

## SCHEDULE OF ROLLED IRON JOISTS.

Drawing. No., of Floor.	Mark on Plan.	No. of Joists,	LENGTH in ft.    in.	Depth. Inches.	Weight per foot lb.	Total Length in ft.    in.	Total Weight in lbs.
		<i>a</i> <sup>2</sup>	2      15    0	10	32		
		<i>b</i> <sup>2</sup>	5      16    9	12	42		
		<i>c</i> <sup>2</sup>	5      17    3	12	42		
		<i>d</i> <sup>2</sup>	5      16    9	12	42		
		<i>e</i> <sup>2</sup>	5      18    0	12	42		
		<i>f</i> <sup>2</sup>	39     19    0	12	42		
		<i>g</i> <sup>2</sup>	2      21    6	12	42		
		<i>h</i> <sup>2</sup>	9      21    0	12	42		
		<i>i</i> <sup>2</sup>	13     18    0	12	42		
		<i>k</i> <sup>2</sup>	9      21    0	12	42		
		<i>l</i> <sup>2</sup>	1      16    0	10	32		
		<i>ditto</i> <sup>2</sup>	1      12    0	8	28		
		<i>m</i> <sup>2</sup>	31     16    0	8	28		
		<i>n</i> <sup>2</sup>	2      18    0	12	42		
		<i>o</i> <sup>2</sup>	2      18    0	12	42		
		<i>p</i> <sup>2</sup>	7      26    0	15	66		
		<i>q</i> <sup>2</sup>	3      21    0	12	42		
		<i>r</i> <sup>2</sup>	3      17    0	10	32		
		<i>s</i> <sup>2</sup>	3      17    0	10	32		

SECOND STORY.

DRAWING NO. 3.

## SCHEDULE OF ROLLED IRON JOISTS.

DRAWING NO. 3,	SECOND STORY.	No. of Drawing.	Mark on Plan.	No. of Joists.	LENGTH in ft. in.	Depth, Inches.	Weight per foot lb.	Total Length in ft. in.	Total Weight in lbs.
			$t^2$	3	25 3	15	66		
			$u^2$	2	16 9	10	32		
			$v^2$	6	17 3	12	42		
			$w^2$	6	17 3	12	42		
			$x^2$	6	17 3	12	42		
			$y^2$	4	17 3	12	42		
			$z^2$	2	17 3	12	42		

25.3

## SCHEDULE OF ROLLED IRON JOISTS.

DRAWING NO. 3.	SECOND STORY	No. of Drawing.	Floor.	Mark on Plan.	No. of Joists,	LENGTH in ft. in.	Depth. Inches.	Weight per foot lb.	Total Length in ft. in.	Total Weight in lbs.
		<i>a</i> <sup>3</sup>		3	24 6		15	50		
		<i>b</i> <sup>3</sup>		7	19 0		12	42		
		<i>c</i> <sup>3</sup>		1	13 6		8	28		
		<i>d</i> <sup>3</sup>		1	13 6		8	28		
		<i>e</i> <sup>3</sup>		2	23 6		12	56		
		<i>f</i> <sup>3</sup>		10	16 6		10	32		
		<i>g</i> <sup>3</sup>		6	20 0		12	42		
		<i>h</i> <sup>3</sup>		2	20 0		12	42		
		<i>i</i> <sup>3</sup>		5	23 0		12	56		
		<i>k</i> <sup>3</sup>		2	17 3		12	42		
		<i>l</i> <sup>3</sup>		4	17 3		12	42		
		<i>m</i> <sup>3</sup>		4	17 3		12	42		
		<i>n</i> <sup>3</sup>		2	17 3		12	42		
		<i>o</i> <sup>3</sup>		6	17 3		12	42		
		<i>p</i> <sup>3</sup>		5	16 9		12	42		

# Abstract of Second Story Joists.

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## Corridors and Staircases.

No. of Joists.	Length in ft.    in.	Depth in Inches.	Weight per foot in lbs.	TOTAL LENGTH in feet.    inches.	TOTAL WEIGHT In lbs.
5	23    0	12	56	115    0	6,440.0
8	20    0	12	42	160    0	
64	19    0	12	42	1,216    0	
66	18    0	12	42	1,188    0	107,688.0
				2,564    0	
31	16    0	8	28	496    0	
2	13    6	8	28	27    0	14,644.0
				523    0	

## Rooms.

7	26    0	15	66	182    0	
8	25    6	15	66	204    0	
3	25    3	15	66	75    9	
12	24    9	15	66	297    0	50,077.5
				758    9	

**Abstract of Second Story Joists. *Continued.*****Rooms.**

No. of Joists.	LENGTH in ft.    in.	Depth. Inches.	Weight per foot lb.	TOTAL LENGTH in feet, inches.	TOTAL WEIGHT In lbs.
10	24 6	12	56	245 0	
10	24 3	12	56	242 6	
7	24 0	12	56	168 0	
2	23 6	12	56	47 0	
2	22 6	12	56	45 0	41,860.0
				<u>747 6</u>	
3	24 6	15	50	73 6	3,675.
6	21 6	12	42	129 0	
39	21 0	12	42	819 0	
3	20 3	12	42	60 9	
2	19 10	12	42	39 8	
2	19 6	12	42	39 0	
1	19 0	12	42	19 0	
14	18 0	12	42	252 0	
47	17 3	12	42	810 9	
17	16 9	12	42	284 9	103,064.5
				<u>2,453 11</u>	

**Abstract of Second Story Joists. *Continued.***

**Rooms.**

No. of Joists	Length in ft., in.	Depth in Inches.	Weight per foot in lbs.	TOTAL LENGTH in feet, inches.	TOTAL WEIGHT In lbs.
3	19 0	10	32	57 0	
11	17 0	10	32	187 0	
10	16 6	10	32	165 0	
20	16 0	10	32	320 0	
2	15 9	10	32	31 6	
12	15 0	10	32	180 0	
4	14 8	10	32	58 8	
2	14 6	10	32	29 0	
4	14 3	10	32	57 0	
2	14 0	10	32	28 0	35,621.2
				1,113 2	
1	14 0	8	28	14 0	
2	13 9	8	28	27 6	
1	12 0	8	28	12 0	
4	9 6	8	28	19 0	2030.
				72 6	

## SCHEDULE OF ROLLED IRON JOISTS.

No. & Drawing Floor	Mark on Plan.	No. of Joists.	LENGTH in ft.      in.		Depth, Inches.	Weight per foot lb.	Total Length in ft.      in.	Total Weight in lbs.
			ft.	in.				
THIRD STORY.	<i>a</i>	2	22	9	12	56		
	<i>b</i>	2	16	0	10	32		
	<i>c</i>	2	19	9	12	42		
	<i>d</i>	2	13	9	10	32		
	<i>e</i>	4	24	9	15	66		
	<i>f</i>	5	24	9	15	66		
	<i>g</i>	3	24	9	15	66		
	<i>h</i>	6	15	0	10	32		
	<i>i</i>	3	24	0	12	56		
	<i>k</i>	3	17	3	10	32		
	<i>l</i>	14	19	0	12	42		
	<i>m</i>	2	14	3	10	32		
	<i>n</i>	2	14	3	10	32		
	<i>o</i>	2	9	9	8	28		
	<i>p</i>	2	15	10	10	32		
	<i>q</i>	2	19	6	12	42		
	<i>r</i>	2	21	6	12	42		
	<i>s</i>	4	25	6	15	66		
	<i>t</i>	2	14	8	10	32		

DRAWING NO. 4.

## SCHEDULE OF ROLLED IRON JOISTS.

No. of DRAWING No. 4.	Drawing, Floor.	Mark on Plan.	No. of Joists.	LENGTH in ft.      in.	Depth. Inches.	Weight per foot lb.	Total Length in ft.      in.	Total Weight in lbs.
THIRD STORY.		<i>u</i>	49	18    3	12	42		
		<i>v</i>	2	16    0	10	32		
		<i>w</i>	2	19    0	12	42		
		<i>x</i>	5	16    0	10	32		
		<i>y</i>	4	25    6	15	66		
		<i>z</i>	2	18    0	12	42		

## SCHEDULE OF ROLLED IRON JOISTS.

Drawing. No. 4.	Floor.	Mark on Plan.	No. of Joists,	LENGTH in ft.    in.	Depth. Inches.	Weight per foot lb.	Total Length in ft.    in.	Total Weight in lbs.
THIRD STORY.		<i>a</i> <sup>1</sup>	2	17    0	10	32		
		<i>b</i> <sup>1</sup>	2	21    6	12	56		
		<i>c</i> <sup>1</sup>	2	16    0	10	32		
		<i>d</i> <sup>1</sup>	2	19    0	12	42		
		<i>e</i> <sup>1</sup>	2	14    0	10	32		
		<i>f</i> <sup>1</sup>	2	18    0	12	42		
		<i>g</i> <sup>1</sup>	3	20    0	12	42		
		<i>h</i> <sup>1</sup>	2	14    0	10	32		
		<i>i</i> <sup>1</sup>	4	24    0	12	56		
		<i>k</i> <sup>1</sup>	2	13    9	8	28		
		<i>l</i> <sup>1</sup>	4	15    0	10	32		
		<i>m</i> <sup>1</sup>	5	18    3	12	42		
		<i>n</i> <sup>1</sup>	39	19    0	12	42		
		<i>o</i> <sup>1</sup>	2	21    6	12	42		
		<i>p</i> <sup>1</sup>	13	18    3	12	42		
		<i>q</i> <sup>1</sup>	3	25    3	15	66		
		<i>r</i> <sup>1</sup>	3	17    0	10	32		
		<i>s</i> <sup>1</sup>	3	17    0	10	32		

## SCHEDULE OF ROLLED IRON JOISTS.

No. of Drawing.	Floor.	Mark on Plan.	No. of Joists.	LENGTH		Depth. Inches.	Weight per foot lb.	Total Length in ft. in.	Total Weight in lbs.
				in ft. in.	in ft. in.				
DRAWING No. 4.	THIRD STORY.	<i>t</i> <sup>1</sup>	18	10	6	8	28		
		<i>u</i> <sup>1</sup>	2	15	0	10	32		
		<i>v</i> <sup>1</sup>	31	10	0	8	28		

## SCHEDULE OF ROLLED IRON JOISTS.

No. of Drawing.	Floor.	Mark on Plan.	No. of Joists.	LENGTH		Depth, Inches.	Weight per foot lb.	Total Length in ft. in.	Total Weight in lbs.
				ft.	in.				
DRAWING NO. 4.	THIRD STORY.	<i>a</i> <sup>2</sup>	6	17	0	10	32		
		<i>b</i> <sup>2</sup>	9	18	2	12	42		
		<i>c</i> <sup>2</sup>	4	17	0	10	32		
		<i>d</i> <sup>2</sup>	2	17	0	10	32		
		<i>e</i> <sup>2</sup>	3	24	3	15	50		
		<i>f</i> <sup>2</sup>	7	19	0	12	42		
		<i>g</i> <sup>2</sup>	2	23	3	12	56		
		<i>h</i> <sup>2</sup>	2	17	0	10	32		
		<i>i</i> <sup>2</sup>	4	17	0	10	32		
		<i>k</i> <sup>2</sup>	4	17	0	10	32		
		<i>l</i> <sup>2</sup>	2	17	0	10	32		

# Abstract of Third Story Joists.

## Corridors and Staircases.

No. of Joists.	Length in ft.    in.	Depth in inches.	Weight per foot in lbs.	TOTAL LENGTH in feet,    inches.	TOTAL WEIGHT In lbs.
64	19    0	12	42	1,216    0	
67	18    3	12	42	1,222    9	102,427.5
				<u>2,438    9</u>	
31	10    6	8	28	325    6	9,114.0
				<u>325    6</u>	

## Rooms.

8	25    6	15	66	204    0	
3	25    3	15	66	75    9	
12	24    9	15	66	297    0	38,065.5
				<u>576    9</u>	
7	24    0	12	56	168    0	
2	23    3	12	56	46    6	
2	22    9	12	56	45    6	14,560.0
				<u>260    0</u>	
3	24    3	15	50	72    9	3,637.4
				<u>72    9</u>	

Abstract of Third Story Joists. *Continued.*

## Rooms.

No. of Joists.	Length in ft.    in.	Depth in Inches.	Weight per foot in lbs.	TOTAL LENGTH in feet.    inches.	TOTAL WEIGHT In lbs.
6	21    6	12	42	129    0	
3	20    0	12	42	60    0	
2	19    9	12	42	39    6	
2	19    6	12	42	39    0	
9	18    2	12	42	163    6	
4	18    0	12	42	72    0	21,126.0
				503    0	
3	17    3	10	32	51    9	
32	17    0	10	32	544    0	
11	16    0	10	32	176    0	
2	15    10	10	32	31    8	
12	15    0	10	32	180    0	
2	14    8	10	32	29    4	
4	14    3	10	32	57    0	
4	14    0	10	32	56    0	
2	13    9	10	32	27    6	36,905.8
				1,153    3	

**Abstract of Third Story Joists. *Continued.***

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**Rooms.**

No. of Joists,	Length in ft.    in.	Depth in Inches.	Weight per foot in lbs.	TOTAL LENGTH in feet.    inches.	TOTAL WEIGHT In lbs.
2	13    9	8	28	27    6	
18	10    0	8	28	180    0	
2	9    9	8	28	19    6	6,356.0
				227    0	

# Hall of Records.

Where Used.	No. of Joists.	LENGTH in ft.      in.	Depth. Inches.	Weight per foot lb.
First Gallery . . .	24	21      0	10	32
Second Gallery . .	24	21      0	10	32
Roof of Corridors	50	17      0	10	32
ditto.	13	18      6	12	42
Roofover . . . .	34	16      6	10	32

# Abstract of Hall of Records.

No. of Joists.	LENGTH in ft.      in.	Depth. Inches.	Weight per foot lb.	TOTAL LENGTH in feet.      inches.	TOTAL WEIGHT In lbs. . .
13	18      6	12	42	240      6	10,101.0
48	21      0	10	32	1,008      0	
50	17      0	10	32	850      0	
34	16      6	10	32	561      0	77,408.0
				2,419      0	87,509.0

# Total Abstract.

No. of Joists.	Length in ft.    in.		Depth in inches.	Weight per foot in lbs.	TOTAL LENGTH in feet.    inches.		TOTAL WEIGHT In lbs.
7	26	0	15	66	182	0	
16	25	6	15	66	408	0	
6	25	3	15	66	151	6	
6	25	0	15	66	150	0	
24	24	9	15	66	594	0	
3	24	6	15	66	73	6	102,894.
					<u>1,559</u>		
3	24	6	15	50	73	6	
3	24	3	15	50	72	9	7,312.
					<u>146</u>		
10	24	6	12	56	245	0	
10	24	3	12	56	242	6	
47	24	0	12	56	1,128	0	
31	23	6	12	56	728	6	
2	23	3	12	56	46	6	
5	23	0	12	56	115	0	
7	22	9	12	56	159	3	

Total Abstract.—*Continued.*

No. of Joints,	Length in ft., in.	Depth in Inches,	Weight per foot in lbs.	TOTAL LENGTH		TOTAL WEIGHT In lbs.
				feet.	inches.	
6	22 6	12	56	135	0	
6	21 0	12	56	126	0	163,842.
				2,925	9	
2	22 0	12	42	44	0	
8	21 9	12	42	174	0	
12	21 6	12	42	258	0	
51	21 0	12	42	1,071	0	
3	20 9	12	42	62	3	
3	20 6	12	42	61	6	
6	20 4	12	42	122	0	
3	20 3	12	42	60	9	
66	20 0	12	42	1,320	0	
2	19 10	12	42	39	8	
2	19 9	12	42	39	6	
10	19 8	12	42	196	8	
16	19 6	12	42	312	0	
2	19 3	12	42	38	6	
142	19 0	12	42	2,698	0	
2	18 9	12	42	37	6	

39.6

Total Abstract.—*Continued.*

No. of Joists,	LENGTH in ft.    in.	Depth. Inches.	Weight per foot lb.	TOTAL LENGTH in feet. inches.	TOTAL WEIGHT In lbs.
76	18 6	12	42	1,406 0	
67	18 3	12	42	1,222 9	
9	18 2	12	42	163 6	
147	18 0	12	42	2,646 0	
79	17 10	12	42	1,408 10	
8	17 6	12	42	140 0	
57	17 3	12	42	983 3	
43	17 0	12	42	731 0	
16	16 10	12	42	269 4	
33	16 9	12	42	552 9	674,468.
				16,058 9	
48	21 0	10	32	1,008 0	
3	19 0	10	32	57 0	
3	17 3	10	32	51 9	
114	17 0	10	32	1,938 0	
24	16 10	10	32	404 0	
2	16 9	10	32	33 6	
55	16 6	10	32	907 6	
44	16 0	10	32	704 0	

Total Abstract.—*Continued.*

No. of Joists,	Length in ft.      in.	Depth in Inches.	Weight per foot in lbs.	TOTAL LENGTH in feet.      inches.	TOTAL WEIGHT In lbs.
2	15 10	10	32	31 8	
16	15 9	10	32	252 0	
21	15 6	10	32	325 6	
2	15 3	10	32	30 6	
35	15 0	10	32	525 0	
9	14 9	10	32	132 9	
6	14 8	10	32	88 0	
11	14 6	10	32	159 6	
21	14 3	10	32	299 3	
14	14 0	10	32	96 0	
2	13 9	10	32	27 6	229,488.
				<u>7,171</u> <u>5</u>	
31	16 0	8	28	496 0	
15	14 6	8	28	217 6	
13	14 0	8	28	182 0	
12	13 10	8	28	166 0	
4	13 9	8	28	55 0	
13	13 6	8	28	175 6	
1	13 3	8	28	13 3	

Total Abstract.—*Continued.*

No. of Joists.	Length in ft. in.	Depth in inches.	Weight per foot in lbs.	TOTAL LENGTH in feet. inches.	TOTAL WEIGHT In lbs.
6	13 0	8	28	78 0	
10	12 6	8	28	125 0	
33	12 0	8	28	396 0	
18	11 0	8	28	198 0	
49	10 6	8	28	514 6	
18	10 0	8	28	180 0	
2	9 9	8	28	19 6	
4	9 6	8	28	38 0	
2	9 0	8	28	18 0	80,423
				2,872 3	1,258,427.

AUGUSTUS LAVER,

*Architect.*

ROBERT GEORGE,

*Secretary.*



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